

Center for Developmental and Molecular Biology

Directors: Kenneth White & John Morrey, Utah State University, Logan, Utah

Phone 797-2149, Fax 797-2118, e-mail kwhite@cc.usu.edu

Background

Established in 1993, one of the center objectives has been to investigate, characterize and synthesize several chemotherapeutic proteins (lytic peptides) and to develop cost-effective production methods. One of these methods involves the production of the proteins using genetically engineered animals (transgenic animals) that can secrete the proteins at high concentrations in their milk.

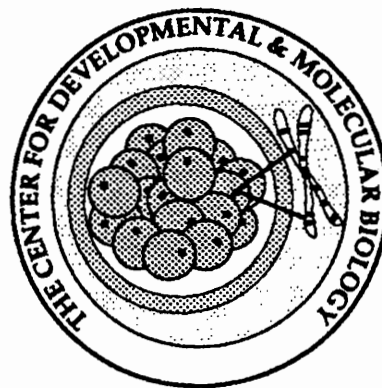
Technology Progress

Technologies are being developed for the high efficiency production of valuable proteins (e.g. lytic peptides), not normally found in animal milk, by producing transgenic animals. Genes (DNA sequences) that code for the specific peptides of interest are introduced into the embryos of selected animal species which, when successful, express the desired protein in the milk producing cells or glands. The expression of the foreign protein in the milk in relatively high quantities provides a cost-effective method of producing the valuable proteins.

Highlights and Accomplishments

Genes for specific peptides have been sequenced and prepared for injection into animal embryos. These genes have been successfully injected in mouse

embryos and the transgenic nature of the new born animals have been confirmed. Similar methods have been used to produce goats which, it is expected, will express the desired proteins in their milk. Expression of the proteins in transgenic goats is highly desirable because the animals produce significant quantities of milk and are relatively easy to breed and maintain. The results are pending the maturation and evaluation of the young animals.



Summary Data:

Current

1995-96 Award	\$150,000
Matching Funds	\$316,162
Patents Pending	3
Patents Issued	0
License Agreements	0
Spin-off Companies	0
Companies Assisted	2
Industry Jobs	0
Center Jobs	13

Cumulative

Awards	\$360,880
Matching Funds	\$804,483
Patents Issued	0
License Agreements	0
Spin-off Companies	0